

CLAIMS

- 1 1. A nucleic acid construct for genetic immunization comprising
2 (a) an antigen-coding region encoding an antigenic protein or
3 peptide; and
4 (b) a sorting region encoding a protein or peptide which acts as a
5 sorting signal to direct intracellular transport of the protein or peptide to the endosomes or the
6 endoplasmic reticulum of a cell.
- 1 2. The construct of claim 1, further comprising a linker region disposed
2 between the antigen-coding region and the sorting region.
- 1 3. The construct according to claim 1 or 2, wherein the sorting region is
2 derived from the human brown locus protein, gp75; human albino locus protein, tyrosinase;
3 human silver locus protein, Pmel 17; or human pink eyed locus P-protein.
- 1 4. The construct according to claim 1 or 2, wherein the sorting region
2 encodes at least the peptide Glu Ala Asn Gln Pro Leu Leu Thr Asp (SEQ ID NO. 1).
- 1 5. The construct according to claim 1 or 2, wherein the sorting region
2 encodes at least the peptide Glu Glu Lys Gln Pro Leu Leu Met Asp (SEQ ID NO. 2).
- 1 6. The construct according to claim 1 or 2, wherein the sorting region
2 encodes at least the peptide Glu Asp Ser Pro Leu Leu (SEQ ID NO. 3).
- 1 7. The construct according to claim 1 or 2, wherein the sorting region
2 encodes at least the peptide Glu Asp Thr Pro Leu Leu (SEQ ID NO. 4).
- 1 8. The construct according to claim 1 or 2, wherein the sorting region
2 encodes at least the peptide sequence Pro Ser Arg Asp Arg Ser Arg His Asp Lys Ile His (SEQ
3 ID NO. 5).

1 9. The construct according to claim 1 or 2, wherein the sorting region is a
2 mutant form in which a glycosylation site present in a corresponding wild type sorting region
3 has been altered.

1 10. The construct according to any of claims 1 to 9, further comprising a
2 promoter region effective to permit expression of the construct in mammalian cells.

1 11. The construct according to claim 10, wherein the promoter region is
2 selected from among the SV40 promoter, the CMV promoter and the RSV promoter.

1 12. A vaccine for genetic immunization comprising a nucleic acid construct
2 according to any of claims 1 to 11.

1 13. The vaccine according to claim 12, wherein the nucleic acid construct
2 is packaged in a liposome.

1 14. The vaccine according to claim 12, wherein the nucleic acid construct
2 is coated on a colloidal gold particle.

1 15. The vaccine according to claim 12, wherein the nucleic acid construct
2 is incorporated into a viral expression vector.

1 16. A method for inducing an immune response to an antigen in a mammal,
2 comprising the step of administering to the mammal a nucleic acid construct or vaccine
3 according to any of claims 1-15.

1 17. A method for preparing a vaccine for genetic immunization comprising
2 the step preparing a nucleic acid construct according to any of claims 1 to 11.

1 18. The method according to claim 17, further comprising the step of
2 packaging the nucleic acid construct in a liposome carrier.

1 19. The method according to claim 17, further comprising the step of
2 coating the nucleic acid construct on a colloidal gold particle.

1 20. The method according to claim 17, wherein the nucleic acid construct
2 is incorporated into a viral expression vector.

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